

## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claim 1 is currently being amended. Support for the amendments to claim 1 can be found in Applicants' disclosure. For example, support for "the preventing...located between the second conductivity type cladding layer and the transparent conductive film" can be found in the Applicants' specification at page 15, lines 13-18, and Fig. 3. In another example, support for "a second conductivity type contact layer formed between the second conductivity type cladding layer and the preventing layer" and "an undoped layer inserted into the second conductivity type contact layer" can be found in the Applicants' specification at page 29, lines 11-19, and Fig. 7.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-23 are now pending in this application.

### **Rejections under 35 U.S.C. 103**

Claims 1, 3, 5, 7, 9, and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,869,849 (hereafter "Jou et al.") in view of U.S. Patent No. 5,856,682 (hereafter "Sasaki") or, in the alternative, U.S. Pub. No. 2002/0104997 (hereafter "Kuo et al."). This rejection is respectfully traversed.

Amended claim 1 recites a light emitting diode that includes a semiconductor substrate, a light-emitting region including an active layer provided between a first conductivity type cladding layer formed over the semiconductor substrate and a second conductivity type cladding layer, a transparent conductive film, a first electrode, a second electrode, a layer for preventing exfoliation of the transparent conductive film with the

preventing layer being made of a compound semiconductor containing at least aluminum and located between the second conductivity type cladding layer and the transparent conductive film and the preventing layer having a high carrier concentration, an undoped layer or a low carrier concentration layer formed between the active layer and the second conductivity type cladding layer, wherein the undoped layer or the low carrier concentration layer is a layer other than the active layer and comprises a bandgap greater than the active layer, a second conductivity type contact layer formed between the second conductivity type cladding layer and the preventing layer, and an undoped layer inserted into the second conductivity type contact layer.

Generally, the construction of Applicants' light emitting diode permits enhanced light emission property, enhanced reliability, and improved yield, as discussed in Applicants' specification on page 30, line 18, to page 31, line 1. Furthermore, due to the insertion of an undoped layer into the contact layer, a negative resistance is eliminated so that it is possible to form a light emitting diode that is not damaged even when significant voltage variation occurs, as discussed on page 31, lines 1-5, of Applicants' specification.

It would not have been obvious to one of ordinary skill to modify the light emitting diode of Jou et al. by the teachings of Sasaki or Kuo et al. to make the light emitting diode of claim 1 because the combination of Jou et al. and Sasaki or Kuo et al. fails to disclose or suggest all of the limitations of claim 1. In particular, the combination fails to disclose or suggest "an undoped layer inserted into the second conductivity type contact layer." Nor would one of ordinary skill in the art have had motivation to make such a modification. Withdrawal of this rejection is respectfully requested.

Claims 2, 4, 6, 8, and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of Sasaki or Kuo et al. as applied to claim 1, and further in view of U.S. Patent No. 6,495,862 (hereafter "Okazaki et al.") and U.S. Pub. No. 2005/0095768 (hereafter "Tsuda et al."). This rejection is respectfully traversed. Okazaki et al. and Tsuda et al. fail to remedy the deficiencies of Jou et al., Sasaki, and Kuo et al. Withdrawal of this rejection is respectfully requested.

Claims 11 and 19-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of Sasaki or Kuo et al. as applied to claim 1, and further in view of the Journal of Applied Physics 51(6), 3269-3272 (1980) (hereafter "Temkin et al."). This rejection is respectfully traversed. Temkin et al. fails to remedy the deficiencies of Jou et al., Sasaki, and Kuo et al. Withdrawal of this rejection is respectfully requested.

Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of Sasaki or Kuo et al. as applied to claim 1, and further in view of Okazaki et al. and Tsuda et al. This rejection is respectfully traversed. Okazaki et al. and Tsuda et al. fail to remedy the deficiencies of Jou et al., Sasaki, and Kuo et al. Withdrawal of this rejection is respectfully requested.

Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of Sasaki or Kuo et al. and Temkin, and further in view of Okazaki et al. and Tsuda et al. This rejection is respectfully traversed. Okazaki et al. and Tsuda et al. fail to remedy the deficiencies of Jou et al., Sasaki, Kuo et al. and Temkin. Withdrawal of this rejection is respectfully requested.

Claims 14 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of Sasaki or Kuo et al. as applied to claim 1, and further in view of Okazaki et al. This rejection is respectfully traversed. Okazaki et al. fails to remedy the deficiencies of Jou et al., Sasaki, and Kuo et al. Withdrawal of this rejection is respectfully requested.

Claims 15 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jou et al. in view of Sasaki or Kuo et al. and Temkin et al. as applied to claim 11, and further in view of Okazaki et al. This rejection is respectfully traversed. Okazaki et al. fails to remedy the deficiencies of Jou et al., Sasaki, Kuo et al., and Temkin et al. Withdrawal of this rejection is respectfully requested.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

6/12/04

By



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